AMENDMENTS TO THE CLAIMS

The following is a complete list of all claims in this application.

1. (Original) A thin film transistor substrate for a liquid crystal display, comprising:

an insulating substrate;

a black matrix formed on said insulating substrate having apertures in areas of pixels and shaped as a net;

an insulating layer covering said black matrix;

a gate wiring formed on said insulating layer, said gate wiring including gate lines extended in a first direction across said substrate and gate electrodes connected to the gate lines;

a gate insulating layer formed over said gate wiring;

a semiconductor layer formed over said gate insulating layer;

an ohmic contact layer formed over said semiconductor layer;

a data wiring including source electrodes and drain electrodes formed separated from each other over said ohmic contact layer, and data lines connected to the source electrodes and crossing the gate lines to define the pixels;

a protection layer formed over said data wiring; and

pixel electrodes electrically connected to the drain electrodes.

2. (Original) The substrate of claim 1, further comprising a buffer layer formed on the same layer as said gate wiring and said data wiring, the buffer layer being formed between portions of the black matrix.

3. (Original) The substrate of claim 2, wherein the black matrix includes first portions overlapping the gate lines, and second portions separated from the first portions and overlapping the data lines.

4. (Original) The substrate of claim 3, wherein a portion of the black matrix overlapping the gate wiring or the data wiring is removed.

5. (Original) The substrate of claim 1, wherein the black matrix is formed overlapping adjacent pixel electrodes.

6. (Original) The substrate of claim 5, wherein a overlapping width of the pixel electrodes and the black matrix is in the range of 0.5-2μm.

7. (Original) The substrate of claim 1, wherein the pixel electrodes and the data lines are spaced apart by a distance in the range of 2-6μm.

8. (Original) The substrate of claim 1, wherein the insulating layer contains silicon oxide.

9. (Original) The substrate of claim 1, wherein the insulating layer is formed to a thickness of 0.5-3μm.

10. (Original) The substrate of claim 1, wherein the substrate is used in a vertically-aligned liquid crystal display, in which liquid crystal molecules are aligned vertically to the substrate.

11. (Original) The substrate of claim 1, wherein liquid crystal molecules are aligned parallel to the substrate and the pixel electrodes are formed linearly, and which further comprises a linear common electrode opposing the pixel electrodes.

12. (Original) The substrate of claim 1, further comprising storage electrodes overlapping the pixel electrodes to form a storage capacitance.

13. (Original) A method for repairing a thin film transistor substrate for a liquid crystal display, the thin film transistor substrate comprising a black matrix including first portions extending in different directions and apertures in areas of pixels, shaped as a net; gate lines extending in the same direction as the first portions of the black matrix, and insulated from and overlapping the first portions; and data lines insulatedly crossing the gate lines to define pixels, and insulated from and overlapping second portions of the black matrix, said method comprising the step of:

shorting a disconnected gate line and the first portion of the black matrix or the disconnected data line and the second portion of the black matrix.

14. (Original) A liquid crystal display, comprising:

an insulating first substrate;

a black matrix formed on said insulating first substrate having apertures in areas of pixels and shaped as a net;

an insulating layer covering said black matrix;

a gate wiring formed on said insulating layer, said gate wiring including gate lines extended in a first direction across the substrate and gate electrodes connected to the gate lines;

a gate insulating layer formed over said gate wiring;

a semiconductor layer formed over said gate insulating layer;

an ohmic contact layer formed over said semiconductor layer;

a data wiring including source electrodes and drain electrodes formed separated from each other over said ohmic contact layer, and data lines connected to the source electrodes and crossing the gate lines to define the pixels;

a protection layer formed over said data wiring;

a pixel wiring including pixel electrodes electrically connected to the drain electrodes through contact holes formed in said protection layer;

an insulating second substrate provided opposing said insulating first substrate; and

a common electrode formed on said insulating second substrate, said common electrode opposing the pixel electrodes to form an electric field for driving liquid crystal molecules.

15. (Original) The liquid crystal display of claim 14, further comprising a buffer layer formed on the same layer as said gate wiring and said data wiring, the buffer layer being formed between portions of said black matrix.

16. (Original) The liquid crystal display of claim 15, wherein said black matrix includes first portions overlapping the gate lines, and second portions separated from the first portions and overlapping the data lines.

17. (Original) The liquid crystal display of claim 14, wherein the liquid crystal molecules are aligned vertically to said insulating first substrate and said insulating second substrate.

18. (Original) The liquid crystal display of claim 14, wherein the pixel electrodes include one or more aperture patterns to disperse a slanting direction of the liquid crystal molecules such that the liquid crystal molecules are aligned in different directions.

19. (Original) The liquid crystal display of claim 14, wherein the common electrode includes one or more aperture patterns to disperse a slanting direction of the liquid crystal molecules such that the liquid crystal molecules are aligned in different directions.

20. (Original) The liquid crystal display of claim 18, wherein the aperture patterns align the liquid crystal molecules into four different directions.

21. (Original) The liquid crystal display of claim 19, wherein the aperture patterns align the liquid crystal molecules into four different directions.

22. (Original) The liquid crystal display of claim 20, further comprising storage electrodes overlapping the pixel electrodes to form a storage capacitor.

23. (Original) The liquid crystal display of claim 21, further comprising storage electrodes overlapping the pixel electrodes to form a storage capacitor.

24. (Original) The liquid crystal display of claim 22, further comprising a light-blocking layer formed in a center portion of the aperture patterns or at areas corresponding to edges of the aperture patterns.

25. (Original) The liquid crystal display of claim 23, further comprising a light-blocking layer formed in a center portion of the aperture patterns or at areas corresponding to edges of the aperture patterns.

26. (Previously Presented) A thin film transistor substrate for a liquid crystal display, comprising:

an insulating substrate;

a black matrix formed on the insulating substrate having apertures in areas of pixels, which are provided in a matrix, such that the black matrix resembles a net;

an insulating layer covering the black matrix;

gate wiring formed on the insulating layer, the gate wiring including gate lines extended in a first direction across the substrate and gate electrodes connected to the gate lines;

a gate insulating layer formed over the gate wiring;

a semiconductor layer formed over the gate insulating layer;

an ohmic contact layer formed over the semiconductor layer;

data wiring including source electrodes and drain electrodes formed separated from each other over the ohmic contact layer and data lines connected to the source electrodes and crossing the gate lines to define pixels;

a protection layer formed over the data wiring;

pixel electrodes electrically connected to the drain electrodes; and

apertures of the pixel electrodes or protrusions to form a fringe field or control a pretilt such that the liquid crystal molecules are slanted in various directions.